

CLAIMS

1. A rubber membrane coated strand, wherein the strand is formed by twisting filaments, characterized in that the filaments are untwisted and a
5 predetermined space is formed between one another, wherein the rubber membrane coating is applied to the periphery of each filament, and wherein the filaments are retwisted.
2. The rubber membrane coated strand according
10 to claim 1, characterized in that each filament is made of metal material.
3. The rubber membrane coated strand according to claim 1, characterized in that each filament is made of polymeric material.
- 15 4. The rubber membrane coated strand according to claims 2 or 3, characterized in that a priming treatment is performed on each filament.
5. The rubber membrane coated strand according to any one of claims 1 to 4, characterized in that
20 the rubber membrane coating is applied to the entire group of strands so that the strands form a ribbon.
6. A belt, characterized in that the belt is manufactured using the ribbon according to claim 5.
7. A ply, characterized in that the ply is
25 manufactured using the ribbon according to claim 5.
8. A tire, characterized in that the tire uses at least one of the belt according to claim 6 and the ply according to claim 7.
9. An untwisting device for the strand,
30 characterized in that paths are formed in a rotor substantially in an axial direction, wherein the rotor is rotatable about an axis, and wherein each filament of the rubber membrane coated strand is

separated and inserted through one of the paths.

10. An untwisting device for the multiple-layer strands, characterized in that paths are formed in rotors substantially in an axial direction, wherein
5 the rotors are coaxial, and wherein each filament of the strand is separated and inserted through one of the paths.

11. The untwisting device for the strand according to claim 9, characterized in that rotating
10 means is provided to apply a rotational force to the rotor in the direction of twisting.

12. A manufacturing apparatus for the rubber membrane coated strand, characterized by:
the untwisting device for strand according to
15 any one of claims 9 to 11; and
rubber supplying means downstream of the strand with respect to the untwisting device, wherein the rubber supplying means applies the rubber membrane coating to the periphery of each untwisted filament.

20 13. A manufacturing apparatus for a rubber membrane coated strand, wherein the strand is formed by twisting filaments, characterized by:
rubber supplying means including a container for liquefied rubber;

25 guiding means for guiding the strand to run through the rubber supplying means; and
untwisting means for untwisting each filament so that the rubber membrane is coated all around each filament when the strand is guided through the rubber
30 supplying means.

14. The manufacturing apparatus for the rubber membrane coated strand according to claim 13, characterized by twisting means for retwisting

untwisted filaments.

15. The manufacturing apparatus for the rubber membrane coated strand according to any one of claims 12 to 14, characterized by pretreatment means for
5 performing pretreatment on the strand upstream of the rubber supplying means.

16. The manufacturing apparatus for the rubber membrane coated strand according to any one of claims 12 to 15, characterized by post-treatment means for
10 performing post-treatment on the strand downstream of the rubber supplying means.

17. A manufacturing method for the rubber membrane coated strand, characterized in that the strand, which is formed by twisting filaments, is
15 untwisted so that a predetermined space is formed between the filaments, wherein, in this state, the rubber membrane coating is applied to the periphery of each filament, and wherein the filaments are retwisted.

- 20 18. The manufacturing method for the rubber membrane coated strand according to claim 17, characterized in that the rubber membrane coating is applied to a group of strands so that the strands form a ribbon.

- 25 19. A manufacturing method for a belt, characterized in that the belt is manufactured using the ribbon-like rubber membrane coated strand manufactured by the manufacturing method according to claim 18.

- 30 20. A manufacturing method for a ply, characterized in that the ply is manufactured using the ribbon-like rubber membrane coated strand manufactured by the manufacturing method according to

claim 18.

21. A manufacturing method for the ply according to claim 20, characterized in that a priming treatment is performed on the filaments before the
5 rubber membrane is coated.

22. A manufacturing method for a tire, characterized in that the tire is manufactured using at least one of the belt manufactured by the manufacturing method according to claim 19 and the
10 ply manufactured by the manufacturing method according to claims 20 or 21.

23. A manufacturing method for a tire, wherein a tire is manufactured using a rubber membrane coated strand, wherein the rubber membrane coated strand is
15 manufactured by untwisting the strand, which is formed by twisting filaments, wherein a predetermined space is formed between the filaments, wherein the rubber membrane coating is applied to the periphery of each filament while the filaments are separated,
20 and wherein, the filaments are retwisted.

24. The rubber membrane coated strand according to any one of claims 2 to 4, characterized in that the rubber membrane coated strand is formed by applying the rubber membrane coating to the strand,
25 wherein the rubber membrane coated strand is aligned next to one another strand to form a ribbon.

25. The rubber membrane coated strand according to any one of claims 1 to 4 and 24, characterized in that each filament has a uniform cross-sectional
30 shape and uniform characteristics.